

Fig. 8. Ditto. (No. 38838.)

Fig. 9. Ditto. (No. 40252.)

Fig. 10. Fragment probably of upper dentition of *Myliobatis striatus*, showing three series of lateral teeth. (No. 25671.)

Fig. 11. Lower dentition of *Myliobatis latidens*. (No. P. 1507 g.)

Fig. 12. Ditto. (No. 25630 a.)

Fig. 13. Fragment of upper dentition, probably of *Myliobatis latidens*. (No. 25656.)

All the figures are of the natural size. The original specimens are preserved in the British Museum, and the numbers refer to the Register of the Geological Department; all are from the Middle Eocene of Bracklesham Bay, Sussex.

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VIII.—On three extremely interesting new Moths of the Family Chalcosiidæ from Kilima-njaro and Natal. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

Two of the following species were collected by Mr. F. J. Jackson near Kilima-njaro and were presented by him to the Museum.

It will be remembered that in the 'Annals' for 1884 I described a remarkable genus of moths under the name of *Pedoptila*; that in 1885 I referred to the allied genus *Doratopteryx* of Rogenhofer, and pointed out how it differed from *Pedoptila*; and, lastly, in 1887 I described a third genus of the same group under the name of *Semioptila*, all three genera being African.

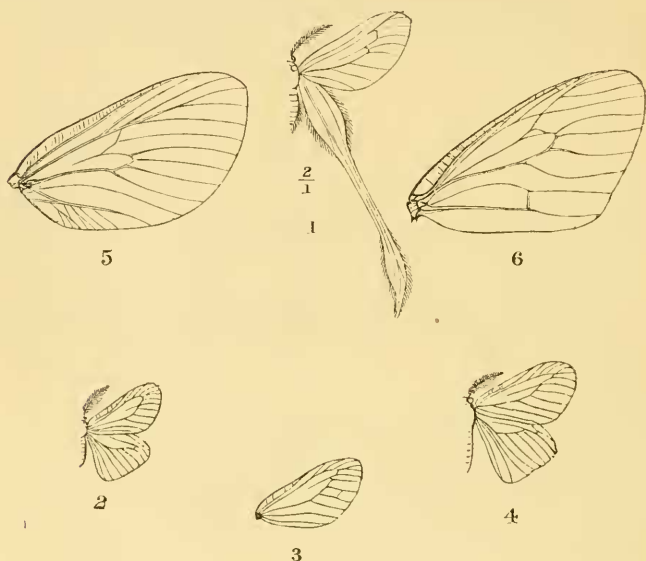
Mr. Jackson has now brought to light a second species of *Doratopteryx*; and although every specimen has unfortunately arrived in a more or less broken condition, I am now in a position to point out certain inaccuracies which occur in Herr Rogenhofer's description of the genus.

The species figured and described by Herr Rogenhofer proves to be a female, not a male as he supposed; the males have distinctly pectinated antennæ.

The secondaries certainly have two veins as stated, but they have more than that; the subcostal vein passes down the tail; at the third fourth of its length the tail expands, and here the subcostal vein throws off a branch which terminates near the end of the expanded portion, whilst the main vein continues on to the point of the tail; the median vein, which is double, emits a short branch just before the tail, and ter-

minates just beyond the expansion, a little beyond the sub-costal branch.

The tail very easily becomes twisted or folded, rendering it almost impossible to see the smaller branches, and therefore it is only by the examination of several examples that one is enabled to describe it correctly; no blame therefore is due to Herr Rogenhofer for his failure to observe them in the single specimen before him.



*Doratopteryx plumigera*, sp. n. (Fig. 1.)

Primaries semitransparent fuliginous grey; the discoidal cell and interno-basal half golden fulvous; veins black: secondaries golden fulvous to the commencement of the tail, the latter blackish, crossed by a belt of ochreous at the commencement of its expansion, which is beyond the middle: head and thorax shining pitch-brown; collar and two spots on the prothorax orange; abdomen dull orange, legs brown. Expanse of wings 13-20 millim.

Mouth of the River Ozy, in dense brush; on a large bush of jessamine, on a fearfully hot day, about 11 A.M.

## DIANEURA, gen. nov.

Wings hyaline; all angles obtuse: primaries with slightly sinuous costal margin, oblique and slightly convex outer margin, and slightly concave inner margin; costal vein slender, extending to about second third of costal margin, united to the margin by four or five slightly oblique transverse veinlets, reminding one of the Sialidæ among the Neuroptera, or the Orthoptera generally; subcostal vein strongly developed, five-branched, the first three branches emitted at regular intervals before the end of the cell, which is prolonged to the fourth fifth of the wing; the fourth and fifth branches forking from a short footstalk; upper discocellular veinlet long, oblique, with a short angle from which the upper radial is emitted; lower radial scarcely separated from a recurrent vein which divides the outer two fifths of the cell, and appearing to form a fourth median branch; median vein thick, slightly bent upwards in front in continuation of the lower discocellular veinlet; the first and second branches wider apart than the second and third; a slender internomidian vein running from the outer margin almost to the base; submedian vein slightly sinuous: secondaries subpyriform, the costal and outer margins sinuous, the inner margin concave; costal and subcostal veins anastomosed near the base and only separating in the form of a subcostal branch at the apical third; subcostal vein emitting its two ordinary branches near together from the anterior extremity of the cell, which is prolonged as in the primaries; the remaining veins correspond exactly in character with those of the primaries: body rather slender, sparsely clothed, excepting on the collar and patagia, which are woolly, with coarse scales; antennæ widely pectinated; mouth-parts aborted; legs short, thick, with the spines aborted, only showing as minute processes on the middle tibiæ.

*Dianeura Goochii*, sp. n. (Fig. 4.)

General form of *Agalope*, but coloured more like *Anomæotes*: wings hyaline, the bases and inner borders suffused with pale tawny, the apices and outer margins grey; veins blackish: body reddish brown, antennæ black; legs buff. Expanse of wings 32 millim.

Natal (*Gooch*).

This very remarkable moth is the one referred to in my paper on *Doratomyx* (Ann. & Mag. Nat. Hist. ser. 5, vol. xvi. Ann. & Mag. N. Hist. Ser. 6. Vol. i. 4

p. 52) as intermediate between *Pedoptila* and *Agalope*; the transverse veining of the costal border of primaries, nevertheless, is wanting in both these genera; but I find it extremely highly developed in the Chalcosiid genus *Callamesia* (fig. 6), even extending to the second subcostal branch, and it is not at all unlikely that other genera of the same family may prove to have traces of the same unusual structural peculiarities.

It will be remembered that when I described a fossil butterfly (Geol. Mag. 1873, vol. x.) Mr. Scudder objected to its being regarded as a lepidopterous insect on the ground that he had discovered what he believed to be traces of transverse veins upon the wings, a feature which he characterized (see Geol. Mag., Oct. 1874) as "decidedly anti-lepidopterous." To this opinion he still adheres, although I have shown that cross veins of the nature of those which he believed to exist in *Palaontina* are by no means unusual in some families, such as, for instance, the Cossidæ, Hepialidæ, or Psychidæ: had I described a fossil specimen of *Callamesia* as a moth there is every probability that Mr. Scudder would, and with greater excuse, have referred it to the Sialidæ; whilst the genus *Scopelodes*, fig. 5 (Limacodidæ), which has imperfect transverse veins across the costal borders of both primaries and secondaries and a series of divergent transverse veins across the inner border of the primaries, would, I think, be a poser, in spite of its possession of these Orthopterous characters.

*Dianeura Jacksoni*, sp. n. (Figs. 2, 3.)

♂ ♀. Hyaline white, the base of primaries and basal half of secondaries suffused with pale yellow; the veins and antennæ blackish: body above pale brown, below brownish testaceous, the legs almost bare. Expanse of wings, ♂ 22 millim., ♀ 31 millim.

Manda Island, June 1886 (*F. J. Jackson*).

The discoidal cell of secondaries in this species is much less prolonged in front than in *D. Goochii*. I have figured a curious abnormality in the neuration of the female at fig. 3.